AMENDMENT TO THE SPECIFICATION

Replace the following paragraph beginning at page 14, last paragraph and ending at page 15, line 6 with the following rewritten paragraph:

-- Examples of the basal plate which is preferably used as the basal plate 1a include those formed with a semiconductor material typified by single crystal silicon, amorphous silicon, silicon carbide, silicon dioxide, silicon nitride and the like; a composite material of these semiconductor materials typified by a silicon · on · insulator (SOI) and the like; an inorganic insulating material selected from the group consisting of glass, quartz glass, alumina, sapphire, and forsterite[~~, silicon carbide, silicon dioxide, and silicon nitride~~]; and an organic material selected from the group consisting of polyethylene, ethylene, polypropylene, polyisobutylene, polyethylene terephthalate (PET), unsaturated polyester, a fluorocarbon resin, polyvinyl chloride, polychlorinated vinylidene, polyvinyl acetate, polyvinyl alcohol, polyvinyl acetal, an acrylic resin, polyacrylonitrile, polystyrene, an acetal resin, polycarbonate (PC), polyamide, a phenol resin, a urea resin, an epoxy resin, a melamine resin, a styrene · acrylonitrile copolymer, an acrylonitrile ·butadiene styrene copolymer, a silicon resin, polyphenylene oxide and polysulfone. More preferably, a basal plate that is formed with single crystal silicon, SOI, PET, or PC may be used.--

Replace the following paragraph beginning at page 20, 2nd paragraph with the following rewritten paragraph:

-- The solution driving part 38 has functions to discharge the culture medium 51 retained within the solution retaining part 171 [~~17~~] of the cell immobilization device 19, or to inject the culture medium 51 into the solution retaining part 171. It is driven by the controlling part 39 as needed. Using the imaging part 35, the electrode 11 on the cell immobilization device 19 can be put into an image or observed. Further, the stimulatory signal imparting part 34 may be

constituted such that the output stimulatory signal is selected, on the basis of imaging data from the imaging part 35.--

Replace the following paragraph beginning at page 20, last paragraph and ending at page 21, line 6 with the following rewritten paragraph:

-- The apparatus for measuring extracellular electric potential 40 imparts a stimulatory signal from the stimulatory signal imparting part 34 to the cells 61, and can detect the electrophysiological change of the cells 61 [~~6~~] corresponding to the response thereof. Alternatively, it is also possible to detect the electrophysiological change which is spontaneously generated in the cells, without imparting a stimulatory signal.--

Replace the following paragraph beginning at page 22, 5th paragraph with the following rewritten paragraph:

-- A basal plate 1c has a through-hole 14c. An electrode 11c is formed on the hole wall surface 141c and the marginal edge 142c of the hole opening of the through-hole 14c. The electrode 11c is formed by making an electrode material adhered on the hole wall surface 141c and the marginal edge 142c of the hole opening of the through-hole 14c ~~14~~ using a vacuum vapor deposition method or a sputtering method.--

Replace the following paragraph beginning at page 30, 2nd paragraph with the following rewritten paragraph:

-- Thereafter, the upper face of the sensor part 16b with the patterning of CRC8300 was washed with 70% EtOH. A divider member that constitutes the solution retaining part was provided on the upper face of the sensor part 16b such that all electrodes 11b [~~11a~~] are included in the divider member, and then the solution retaining part was filled with a culture medium. Next, thereto were seeded nerve cells prepared using a known method to persons skilled in the art from cerebral cortex of a fetal rat on day 17. Density of seeding on the sensor part 16b was 5 ×

10^4 cells/mL. Following the seeding, after culture in an atmosphere of the temperature of 37°C and the concentration of CO_2 of 5% by weight for 5 hours, a tetramethylammonium hydroxide (TMAH) solution as a pH adjusting agent was injected into the culture medium. The masking layer was thereby detached from the sensor part 16b. The detached masking layer was carefully removed, and then the cells were cultured for two weeks. Accordingly, it was confirmed that a network was reconstructed among nerve cells on the electrodes.--